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Notice of Allowability

Application No.

09/837,436

Examiner

Monplaisir G Hamilton

Applicant(s)

FRIEDER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/01/04.
2. ☒ The allowed claim(s) is/are 5,7,8 and 11-28.
3. ☒ The drawings filed on 30 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

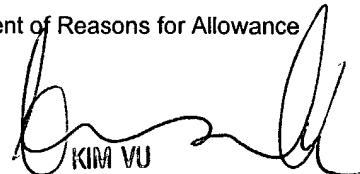
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20040819.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


KIM VU

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roland Norris on 8/17/2004.

The application has been amended as follows:

1-4. (canceled)

5. (currently amended) A method of digital data gathering for providing a direct answer to a natural language question, comprising:

- a) accepting input of a natural language question;
- b) identifying the relevant concepts of the natural language question;
- c) assembling the relevant concepts of the natural language question into a query
- d) identifying, via a meta-data source for a physical data warehouse, a data source in a physical data warehouse likely to contain an answer to the query;
- e) performing a first search of the query in the physical data warehouse;
- f) performing a second search of the query in an unstructured data source not

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contained in the physical data warehouse;

g) integrating the results of the first and second searches and selecting a direct answer to the natural language question; and

h) displaying the direct answer to the natural language question.

6. (canceled)

7. (original) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: eliminating redundant search results and ranking search results in order of relevance.

8. (previously presented) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: routing the query and identified data source to a structured data source manager.

9. (canceled)

10. (canceled)

11. (original) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising:

eliminating irrelevant words of the natural language question from use in the query

12. (previously presented) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: routing the query to an unstructured data source manager for performing the second search.

13. (previously presented) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: displaying data related to the direct answer.

14. (previously presented) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: accumulating search results for a specified time before displaying the direct answer.

15. (original) The method of digital data gathering for providing an answer to a natural language question, according to Claim 5, further comprising: accumulating additional search results after displaying the direct answer.

16. (original) The method of digital data gathering for providing an answer to

a natural language question, according to Claim 15, further comprising: updating the ranking of the search results by incorporating the additional search results.

17. (original) The method of digital data gathering for providing an answer to a natural language question, according to Claim 16, further comprising: providing a second display updating the ranking of the search results by incorporating the additional search results.

18. (original) The method of digital data gathering for providing an answer to a natural language question, according to Claim 17, wherein: the second display updating the ranking of the search results is manually actuated.

19. (previously presented) An intranet mediator for providing a direct answer to a natural language question, comprising:

a) a user interface with:

i) a natural language question input module for accepting natural language questions; and

ii) an answer module for display of the direct answer;

b) a parser module for identifying the relevant concepts of the natural language question, assembling the relevant concepts of the natural language question into a query and eliminating irrelevant words of the natural language question from use in the query;

c) an unstructured data source manager for managing query input to, and accepting results from, unstructured data sources outside of a physical data warehouse;

d) a data source selection module for accepting the query from the parser and for identifying a data source likely to contain an answer to the query; the data source selection module being connectable to a meta-data source for a physical data warehouse;

e) a dispatcher module for accepting the query from the parser and for accepting the identified data source from the data source selection module and routing the query and identified data source to a physical data warehouse data source manager or the unstructured data source manager, or both;

f) the physical data warehouse data source manager being for accepting the query from the dispatcher and performing a search of the query in the physical data warehouse and forwarding the results of the search to a results manager module;

g) the unstructured data source manager further accepting the query and any identified unstructured data sources from the dispatcher and performing a search of the query in the identified unstructured data sources outside of the physical data warehouse and forwarding the results of the search to a results manager; and

h) a results manager module for accepting the results of the structured and unstructured data source searches and integrating the results of the searches and

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selecting the direct answer and forwarding the direct answer to the answer module.

20. (previously presented) The intranet mediator according to Claim 19, further comprising: the natural language question input module being constructed and arranged for allowing the user to manually select data sources if desired.

21. (previously presented) The intranet mediator according to Claim 19, further comprising; the answer module being constructed and arranged for display of the direct answer and data associated therewith.

22. (previously presented) In the intranet mediator according to Claim 21, the results manager module further comprising: means for accumulating search results for a specified time or specified number of results before displaying the direct answer.

23. (previously presented) In the intranet mediator according to Claim 21, the results manager module further comprising: means for accumulating additional search results after displaying the direct answer.

24. (previously presented) In the intranet mediator according to Claim 23,

the results manager module further comprising: means for updating the ranking of the search results by incorporating the additional search results.

25. (previously presented) In the intranet mediator according to Claim 24, the answer module further comprising: means for providing a second display updating the ranking of the search results by incorporating the additional search results.

26. (previously presented) In the intranet mediator according to Claim 25, further comprising: means for manually actuating the second display.

27. (previously presented) An intranet mediator for providing a direct answer to a natural language question, comprising:

- a) a physical data warehouse containing structured data sources;
- b) unstructured data sources outside of the physical data warehouse;
- c) a meta-data repository having meta-data for the structured data sources;
- d) a natural language question input module for accepting natural language queries and allowing the user to manually select data sources if desired;
- e) a parser module for identifying the relevant concepts of the natural language question, assembling the relevant concepts of the natural language question into primary query tokens and eliminating irrelevant words of the natural

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language question from use as primary query tokens, and for accepting results from a query expander module;

f) a query expander module for accepting the primary query, determining analogous terms to the primary query tokens, and forwarding the primary query tokens and the analogous terms to an unstructured data source manager, and assembling enhanced query tokens from the results;

g) an unstructured data source manager for managing enhanced query token input to, and accepting search results from, the unstructured data sources outside of the physical data warehouse;

h) a data source selection module for accepting the enhanced query from the parser module and connectable to the meta-data source for that physical data warehouse, and for identifying a data source likely to contain an answer to each of the enhanced query tokens;

i) a dispatcher module for accepting the enhanced query tokens from the parser and for accepting the identified data sources from the data source selection module and routing the enhanced query tokens and identified data sources to a structured data source manager and an unstructured data source manager;

j) a structured source manager for accepting the enhanced query tokens and the identified structured data sources from the dispatcher and performing a search of the enhanced query tokens in the identified structured sources and forwarding the results of the search to a results manager module;

1) a results manager module for accepting the results of the structured and unstructured data source searches for each enhanced query token and integrating the results of the searches and selecting a direct answer to the natural language question and forwarding the direct answer to the answer module; and

m) an answer module for display of the direct answer and associated data links.

28. (previously presented) The intranet mediator according to Claim 27, further comprising: the meta-data repository having meta-data for unstructured data sources within the physical data warehouse.

29-36. (canceled)

Reason for Allowance

2. The following is an examiner's statement of reasons for allowance:

The prior art does not fairly teach or suggest the limitations of independent Claims 5, 19 and 27.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

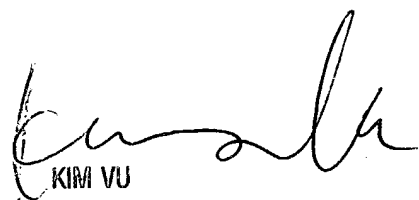
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monplaisir G Hamilton whose telephone number is (703) 305-5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monplaisir Hamilton


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER